UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

BAKER HUGHES INCORPORATED, *et al*,	§	
	§	
Plaintiffs,	§	
VS.	§	CIVIL ACTION NO. H-09-1885
	§	
NALCO COMPANY,	§	
	§	
Defendant.	§	

AMENDED MEMORANDUM OPINION AND ORDER FOR INJUNCTIVE RELIEF

I. INTRODUCTION

Before the Court is the plaintiff Baker Hughes Incorporated's[1] application for a preliminary injunction (Docket Entry No. 1), the defendant Nalco Company's response to Baker Hughes' application (Docket Entry No. 18), Baker Hughes' motion on remand for additional findings of fact and entry of preliminary injunction (Docket Entry No. 50), Nalco's opposition to the motion on remand (Docket Entry No. 56) and Baker Hughes' reply to the opposition to its motion to remand (Docket Entry No. 61). Further before the Court is Nalco's motion for leave to supplement the record (Docket Entry No. 59), Baker Hughes response to Nalco's motion for leave to supplement the record (Docket Entry No. 63), and Nalco's reply in support of its motion (Docket Entry No. 64). Also before the Court are the parties' responses, replies, memoranda and the testimony of witnesses. The Court, taking all matters under advisement, determines that Baker Hughes' application for a preliminary injunction should be granted and Nalco's motion for leave to supplement the record should be denied.

[1] While the record shows that Baker Hughes, Incorporated and Baker Petrolite Corporation are plaintiffs in the case, Baker Hughes alone seeks injunctive relief.

II. FACTUAL BACKGROUND AND PROCEDURAL HISTORY

On or about March 3, 2009, the Patent and Trademark Office ("PTO") issued patent number 7,497,943 (the '943 patent) to inventors Nguyen, Kremer and Weers. In turn, they assigned the patent to Baker Hughes. The patent claimed a method for removing or transferring metals and/or amines from a hydrocarbon (crude oil) during the desalting process by using a composition that contains water-soluble hydroxyacids. The invention teaches that the "water soluble hydroxyacid may be glycolic acid, gluconic acid, C_2–C_4 alpha-hydroxyacids, poly-hydroxy carboxylic acids, thioglycolic acid, chloroacetic acid, polymeric forms of the above acids, poly-glycolic esters, glycolate ethers and ammonium salt and alkali metal salts of these hydroxyacids, and mixtures thereof."[2]

In 2002, Exxon-Mobil and Chevron, in particular, sought a process that would permit them to refine a crude oil that was being collected from the Doba Field in Chad. In response, both Baker Hughes and Nalco, and perhaps others, set out to develop a process or method by which high levels of calcium and metals might be removed from these crudes. By 2007, Baker Hughes reached a point in its testing process where it was successfully removing calcium and metals from Doba crude without side effects. In 2009, Baker Hughes successfully demonstrated its method in the United States at the Sunoco Plant in Philadelphia, Pennsylvania. Nalco, who had a contract for other services with Sunoco, successfully demonstrated its calcium and metal removal method or process in April of 2009, after Baker Hughes' successful demonstration and after the '943 patent had issued in March of 2009.

On September 11, 2009, this Court issued a preliminary injunction in this case. Nalco filed an emergency motion to stay and sought relief in an appeal to the Federal Circuit Court of Appeals. The Federal Circuit vacated the preliminary injunction and remanded the case to this

[2] *See* Claim 1 of the '943 patent set forth herein.

Court, instructing this Court that its opinion and findings of facts were insufficient to sustain the injunction, particularly on the subject of irreparable harm.

III. CONTENTIONS OF THE PARTIES

A. Baker Hughes' Contentions

Baker Hughes contends that it owns the '943 patent, which is entitled "Additives to Enhance Metal and Amine Removal in Refining Desalting Process." It further contends that the '943 patent is valid and enforceable and that Nalco is currently infringing and/or contributing to its infringement at the Sunoco Plant in Philadelphia. Baker Hughes asserts that only after it successfully demonstrated its process at Sunoco was Nalco able to successfully remove calcium and metals from the crude oil at Sunoco. Nalco's success, according to Baker Hughes, is a result of Nalco copying the Baker Hughes process. According to Baker Hughes, after it successfully ran its process, Nalco obtained a "Safety Data Sheet" that revealed the various acids that Baker Hughes had used in its process. At the time, Baker Hughes contends, Nalco had other contractual relationships with Sunoco and, thereby, had access to the desalting process at the plant. *See* [Plaintiff's Exhibit 9, Baker Hughes-Analytical Services Report, (May 18, 2009)]. Concerning its allegation that Nalco has not successfully removed calcium and metals from Doba crude, Baker Hughes points to the fact that up to April or May of 2009 Nalco had failed. As well, Baker Hughes points out, Nalco never used malic acid or the C_2–C_4 alpha-hydroxy acids, but instead had relied unsuccessfully on maleic acid. *See* [Plaintiff's Exhibit 8, Nalco Material Data Sheet, (Aug. 28, 2006)]. Therefore, Baker Hughes seeks an injunction enjoining Nalco from performing or soliciting the use of the Baker Hughes process, or assisting or inducing the use of its patented process.

B. Nalco's Contentions

Nalco contends that Baker Hughes' application for a preliminary injunction should be denied. First, Nalco argues that Baker Hughes cannot satisfy the requirements for the issuance of an injunction. In this regard, Nalco argues that Baker Hughes cannot show a likelihood of success on the merits with respect to validity, enforceability and infringement. Nalco argues that the '943 patent language "consisting of" is restrictive and, therefore, fails to include other additional steps; for example, the addition of a corrosion inhibitor in the process. Nalco's process includes a corrosion inhibitor step, which it argues adds an additional step, thus avoiding infringement of the '943 patent.

Second, Nalco contends that its process does not include "crude oil" as required by the '943 patent. In this regard, Nalco argues the '943 patent calls for a "pure crude oil" *i.e.,* devoid of all diluents or solvents. Nalco modifies its crude oil "using conventional desalting techniques *i.e.*, adding a demulsifer to the cold crude oil." Hence, Nalco claims that it does not add a "wash water" to the crude to create an emulsion as called for in the '943 patent.

Third, Nalco contends that a substantial fact question exists as to the validity of claims 1 and 17 based on the arguments that: (a) claims 1 and 17 are anticipated by the Reynolds '463 patent (U.S. 7,789,463); (b) claims 1 and 17 are obvious in light of Hickock and/or Strong (U.S. Patent Nos. 2,767,123 and 3,449,243, respectively); (c) claims 1 and 17 are obvious in the view of Hickock and/or Naeger (the Hickock '123 patent and U.S. Patent No. 4,992,210); and, (d) claims 1 and 17 are obvious in light of the Reynolds '463 patent.

Finally, Nalco asserts that Baker Hughes cannot demonstrate that it will suffer irreparable harm. In this regard, Nalco argues that there is no evidence of: (a) lost sales; alternatively, that any loss would be immeasurable; (b) price erosion due to the Nalco process; and (c) loss of

goodwill by Baker Hughes. To round out its argument against the issuance of an injunction, Nalco asserts that the balance of hardships favors Nalco, and that the public interest does not favor the issuance of an injunction because the '943 patent is invalid.

IV. STATEMENT OF AUTHORITIES

The Supreme Court has held that equitable injunctive relief is available to a party in patent infringement cases to prevent violation of any right secured by a patent. *See eBay Inc. v. Merc-Exchange, LLC,* 126 S.Ct. 1837, 1839 (2006). The Patent Act provides that "[t]he several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent violation of any right secured by [a] patent . . . ." *See* 35 U.S.C. § 283. The form and scope of an injunction is governed by Federal Rule of Civil Procedure 65(d). It provides in part that:

> [e]very order granting an injunction and every restraining order shall set forth the reasons for its issuance; shall be specific in terms; shall describe in reasonable detail, and not by reference to the complaint or other document, the act or acts sought to be restrained . . . .

Id.

A plaintiff seeking an injunction must satisfy a four-factor test by demonstrating that: (1) it has or will suffer an irreparable injury; (2) remedies available at law such as monetary damages, are inadequate to compensate for that injury; (3) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and, (4) the public interest would not be disserved by the injunction. *See eBay, Inc.,* 126 S.Ct. at 1839. "The standard for a preliminary injunction is essentially the same as for a permanent injunction with the exception that the plaintiff must show a likelihood of success on the merits rather than actual success." *Amoco Prod. Co. v. Village of Gambell, AK,* 480 U.S. 531, 546 (1987); *Erico Intern. Corp. v. Vutec Corp.,* 516 F.3d 1350, 1357 (Fed. Cir. 2008) (Newman, J., dissenting). The decision to

grant or deny an injunction is a matter within the discretion of the court. *eBay, Inc.*, 126 S.Ct. at 1839; *see also Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1374 (Fed. Cir. 2006).

V. ANALYSIS AND FINDINGS OF FACTS

A preliminary injunction should be granted, according to Baker Hughes, because: (a) there is a reasonable likelihood that it will succeed on the merits; (b) it will and is suffering irreparable injury; (c) the balance of the hardships weigh in favor of an injunction; and, (d) the public interest will not be disserved by the issuance of an injunction. *See* Fed. R. Civ. Pro. 65(d); *see also Winter v. Natural Res. Def. Council, Inc.*, 129 S.Ct. 365, 374 (2009). Baker Hughes contends that the '943 patent is valid and enforceable and that Nalco is infringing or contributing to it. Nalco, in turn, argues that an injunction is unwarranted because no contract for the use of the Baker Hughes or Nalco methods is in effect.

The '943 patent describes and claims a method for removing metals and amines, including calcium, from crude oil in a refinery desalting processes. Claim 1 of the '943 patent claims the following method:

> A method of transferring metals and/or amines from a hydrocarbon phase to a water phase in a refinery desalting process consisting of:
>
> adding to a wash water, an effective amount of a composition to transfer metals and/or amines from a hydrocarbon phase to a water phase comprising at least one water-soluble hydroxyacid selected from the group consisting of glycolic acid, gluconic acid, C2-C4 alphahydroxy acids, malic acid, lactic acid, poly-hydroxy carboxylic acids, thioglycolic acid, chloroacetic acid, polymeric forms of the above hydroxyacids, polyglycolic esters, gylcolate ethers, and ammonium salt and alkali metal salts of these hydroxyacids, and mixtures thereof;
>
> lowering the pH of the wash water to 6 or below, before, during and/or after adding the composition; adding the wash water to crude oil to create an emulsion; and
>
> resolving the emulsion into hydrocarbon and aqueous phases using electrostatic coalescence, where at least a portion of the metals and/or amines are transferred to the aqueous phase . . . .

Claim 17 of the '943 patent claims the following method:

> The method of claim 1 where the composition additionally comprises at least one additional component selected from the group consisting of water or alcohol solvent, a corrosion inhibitor, a demulsifier, a scale inhibitor, metal chelants, wetting agents and mixtures thereof . . . .

A. Irreparable Injury

Baker Hughes asserts that the Court should enjoin Nalco because it is infringing at least claims 1 and 17 of the '943 patent. Baker Hughes alleges that, unless Nalco is enjoined, it will be "irreparably harmed, its pricing and market share for the patented method will be eroded," and its good will and reputation will be diminished. As well, it states that it is in the public interest to enforce patents to encourage others to invest and utilize the patent system. Further, Baker Hughes asserts that it presents itself in the petroleum market place as the "problem solver" and that its reputation is based in part on the fact that it does not generally license its patents. Hence, it maintains control and the integrity of its patented methods and processes. Finally, Baker Hughes argues that its monetary loss cannot be determined because the exclusive sale of its patented services often generates "pull through sales" that are incalculable at present.

Nalco asserts that no contract has been granted to either itself or Baker Hughes at the Sunoco Plant for the method or process that Baker Hughes claims. Therefore, it asserts that no damages have been or can be established or sustained by Baker Hughes. However, in the event Nalco is awarded the Sunoco Plant contract, it alleges that the damages are quantifiable because they will occur in the future. Therefore, Nalco maintains that Baker Hughes will suffer no damages that it cannot recover in the event it ultimately prevails on its infringement claims.

The Court finds that, absent preliminary injunctive relief, Baker Hughes will be irreparably harmed. As discussed below, this conclusion is warranted in light of the nature of the competition between Nalco and Baker Hughes and the attributes of the pertinent market.

"The fact that there is direct competition in a mark[et]place weighs heavily in favor of a finding of irreparable injury." *i4i Ltd. P'ship v. Microsoft Corp.*, No. 6:07CV113, 2009 WL 2449024, at *27 (E.D. Tex. Aug. 11, 2009) (citing *Brooktrout, Inc. v. Eicon Networks Corp.*, 2:03-CV-59, 2007 WL 1730112, at *1 (E.D. Tex. June 14, 2007) (unreported opinion)). In fact, "[c]ourts awarding permanent injunctions typically do so under circumstances where [the] plaintiff practices its invention and is a direct market competitor [of the alleged infringer]." *Finjan Software, Ltd. v. Secure Computing Corp.*, No. 06-369, 2009 WL 2524495, at *10 (D. Del. Aug. 18, 2009) (quoting *Advanced Cardiovascular Sys. v. Medtronic Vascular, Inc.*, 579 F. Supp. 2d 554, 558 (D. Del. 2008)). For further guidance on this point, the Court looks to the Federal Circuit case *Acumed LLC v. Stryker Corp*. 551 F.3d 1323 (2008). In pertinent part, *Acumed* stated:

> The essential attribute of a patent grant is that it provides a right to exclude competitors from infringing the patent. 35 U.S.C. § 154(a)(1) (2000). In view of that right, infringement may cause a patentee irreparable harm not remediable by a reasonable royalty. [Even where a patentee has previously licensed out the technology, a]dding a new competitor to the market may create an irreparable harm that the prior licenses did not . . . .

Id. at 1328. Further, in upholding the grant of a preliminary injunction, the Federal Circuit has stated that the "los[s of] sales to a direct competitor" evinces irreparable harm. *Systemation, Inc. v. Engel Indus., Inc.*, No. 98-1489, 1999 WL 129640, at *6 (Fed. Cir. Mar. 10, 1999) (unreported opinion).

This precedent, as applied to the current factual scenario, requires a finding of irreparable harm. At present, there are only two competitors in the pertinent market: Nalco and Baker

Hughes. This market consists of a small number of potential clients (e.g. Sunoco), and the parties are in direct competition for this business (as evidenced by their recent competition at the Sunoco Plant).

Further, the Court finds that, absent an injunction, Baker Hughes will suffer irreparable harm through damage to its reputation in the pertinent market. Specifically, Baker Hughes presented evidence that, within this market, a company is unlikely to be able to resume elevated pricing of patented goods (after discounted sales by other parties) without suffering harm to its good name and ability to conduct business.[3] Further, this damage to Baker Hughes' business reputation could harm its ability to engage in the sale of functionally related products. These damages are (potentially) both irreparable and difficult to quantify. Such conclusions support a finding of irreparable harm.

B. The '943 Patent Validity (Anticipated/Obvious)

Next, Nalco argues that the prosecution history of the '943 patent reveals that it is anticipated by the Reynolds '463 patent, or is obvious in light of the publication "Petroleum Refining" and patents such as the Hickok and/or Strong, and Strong and Hickok and/or Naeger. While Baker Hughes' '943 patent discloses the use of a conventional crude oil desalting process and malic and lactic acids that are also referenced in the Reynolds '463 patent, the '463 instructs the user to avoid the use of emulsions because they tend to interfere with an effective separation. As such, the '463 patent does not disclose the formulation of an emulsion. The Court also finds that while the Reynolds '463 patents mentions malic and lactic acids, it does not teach the use of

[3] The Court notes that, as pointed out by Nalco, a purely efficient actor would do business with any party, so long as the transaction maximized profits. *See* Shmuel I. Becher & Tal Z. Zarsky, *E-Contract Doctrine 2.0: Standard Form Contracting in the Age of Online User Participation*, 14 Mich. Telecomm. & Tech. L. Rev. 303, 309 ("According to the most basic concepts of Law and Economics (hereinafter L&E), both contracting parties are assumed to accept only efficient contracts that maximize their utility."). However, contrary to the assumption that all parties behave in the manner that benefits them the most, some parties will act against their best interest. Baker Hughes presented evidence that such inefficient choices are sometimes made in the pertinent market.

either in a mixture for creating an emulsion. Therefore, the Court finds that it is more likely than not that a fact finder would find the method presented in the '943 patent nonobvious. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1740 (2007).

The remaining prior art references cited by Nalco are also deficient, standing alone or in combination, to teach the method of the '943 patent. For example the Strong '243 patent teaches the use of carboxylic acid in an alcohol solution. The Hickok '123 patent focuses on the treatment of gasoline as opposed to crude oil. And, as well, it requires an oxidation step that is not included in the '943 patent. Likewise, the Naeger '210 patent teaches away from the '943 patent in that it teaches a method for the removal of impurities by the addition of amines to either the crude oil or wash water. It does not address the removal of metals and amines from crude oil.

In light of the fact that the Reynolds '463 patent, among other Reynolds patents, was before the PTO Examiner and was reviewed and rejected as relevant, without evidence of error or inequitable conduct, the Court presumes that the PTO properly performed its function. Certainly, the absence of evidence strengthens the presumption of the validity of the '943 patent.

The Court finds, by a preponderance of the evidence, that Nalco will not be able to (at trial) overcome the presumption of the validity of the '943 patent by clear and convincing evidence. The Court finds that Baker Hughes is the owner of U.S. Patent No. 7,797,943 and has the authority and right to enforce it. Enforcing a valid patent is of vital importance to the welfare and health of patent industry. In this regard, the Court finds that it is in the public interest to enforce patents and thereby encourage the public to utilize the patent system. Hence, the issuance of an injunction would not be a disservice to the public.

C. Success on the Merits

The Court is also of the opinion and finds that Baker Hughes has demonstrated a likelihood of success on the merits. The '943 patent describes a method for cleaning crude oil of high levels of calcium during the desalting process in a refinery. The Nalco method for cleaning crude oil, in the Court's opinion, copies the Baker Hughes method in that it injects malic acid into the wash water stream lowering the pH of the wash water from 7.30 to below 3.30 to form an emulsion in order that the calcium is transferred from the crude oil stream to the water stream. Upstream, Nalco adds a corrosion inhibitor which addition does not enable the chemistry of Baker Hughes' method. The Court finds that Nalco is conducting this method at the Sunoco Refinery where Baker Hughes introduced and practiced the '943 patent method starting in 2004. Hence, the Court finds that Nalco has copied the Baker Hughes method and is practicing each step of the claimed method particularly claims 1 and 17 of the '943 patent.

Nalco argues that it is not practicing the '943 patent because it has included an additional step in the process or method. The Court disagrees. The '943 patent does not claim to invent the refinery desalting process, instead, it claims to utilize it or to present a method that can be included in a desalting process. Hence, the argument, for example, that an additional step has been added to its transfer method, *i.e.*, a corrosion inhibitor, fails to distinguish the Nalco method from the Baker Hughes method. Nalco, during its testimonial evidence admitted that adding a corrosion inhibitor to the method adds nothing to chemical equation for transferring metals and/or amines from the crude. Similarly, Nalco's claim that the '943 patent adds wash water to its composition, which Nalco claims is contrary to its method, is also fallacious.

The Nalco process adds a demulsifier to the crude oil, adds a corrosion inhibitor into the wash water and, during the desalting process, heats the crude oil/demulsfier. These steps are not

original, they are revealed in the standard desalting process (and as such, are part of the desalting process that co-exists with the claimed invention). And, there is no scientific data proffered by Nalco suggesting that heating the crude oil/demulsifier prior to mixing it in the wash water serves any measurable or scientific purpose in the chemistry of the method. Hence, the Court finds that, similar to Baker Hughes, Nalco's use of the standard desalting process neither adds to nor detracts from the method for transferring metals and/or amines from crude. Therefore, the Court concludes that it is more likely than not that Baker Hughes will prevail on the merits of its case at trial.

D. The Balance of Hardships

Quoting from *Litton Systems, Inc. v. Sundstrand Corp.,* Nalco proffers the following: "[a]n injunction should not be granted if its impact on the enjoined party would be more severe than the injury the moving party would suffer if it [were] not granted." 750 F.2d 952, 959 (Fed. Cir. 1984). Beyond the quote, Nalco's evidentiary proffer is short on establishing a hardship claim. The evidence shows that Nalco has not sold its technology to any vendor in the crude oil industry. Both Baker Hughes and Nalco are seeking to market the method to the Sunoco Refinery with the view that an award opens a new market for the prevailing bidder. Clearly, a party that owns a patent that covers the process has more to lose than its non-patented competitor. The Court finds that Nalco owns no invention that covers the method practiced. Hence, Nalco would not be "put out" of any market or business nor denied the practice of any process that it owns were it not permitted to practice the Baker Hughes method. Therefore, the Court concludes that considering the balance of hardships, the hardship element favors Baker Hughes. *See Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 708 (Fed. Cir. 1997).

VI. CONCLUSION

The Court has reviewed the evidence and considered the testimony offered by the parties in reaching the conclusion that a preliminary injunction should issue in this case. In addition, the Court's finds from the evidence and the order of events that an inference of copying on the part of Nalco has been raised. There is also compelling evidence that the Nalco's '403 patent (U.S. 7,399,403) does not successfully remove calcium and metal from crude oil. The '403 patent introduces a process for removing calcium and metal contaminants through the use of maleic acid. There is no mention of malic acid in Nalco's '403 patent. Nor is there evidence that Nalco's method included malic prior to 2009. Moreover, there is no evidence that Nalco has enjoyed a commercially successful application of its '403 patent in the United States. Because the Court is persuaded that Baker Hughes has satisfied its burden of showing that the issuance of an injunction is appropriate, while Nalco has failed to raise any reason that justifies a delay in the issuing of an injunction, Baker Hughes' motion for a preliminary injunction is GRANTED.

VII. INJUNCTIVE RELIEF

It is so ORDERED that Nalco is enjoined from practicing any method for cleaning crude oil using the desalting process in a refinery in the United States that: a) adds an effective amount of a composition to the wash water of a refinery desalting process to transfer metals and/or amines from a crude oil phase or stream to a water phase or stream comprising at least one water-soluble hydroxyacid selected from the group consisting of glycolic acid, gluconic acid, C_2-C_4 alpha-hydroxy acids, malic acid, lactic acid, poly-hydroxy carboxylic acids, thioglycolic acid, chloroacetic acid, polymeric forms of the above hydroxyacids, poly-glycolic esters, gylcolate ethers, and ammonium salt and alkali metal salts of these hydroxyacids, and mixtures thereof, b) where the pH of the wash water stream is lowered to below a pH of 6, c) where the addition of

the wash water stream to the crude oil stream forms an emulsion, and d) where the emulsion is then resolved or demulsified into a crude oil and water streams using electrostatic coalescence, where at least a portion of the metals and/or amines are transferred to the water stream.

It is further ORDERED that Nalco is enjoined from aiding and abetting, inducing or contributing to, the infringement of the method(s) claimed by the '943 patent by another, who infringes by performing any or all of the steps claimed in the '943 patent and specifically from performing or assisting in the performance of the Baker Hughes' Patented Method, or selling or offering to sell a chemical composition claimed in the '943 patent, including, but not limited to, malic acid, for the purpose of performing the method(s) claimed by claims 1 and 17 of the '943 patent.

Finally, IT IS ORDERED that a Preliminary Injunction shall issue only upon Baker Hughes posting of a bond in the amount of $1,000,000.[4]

SIGNED at Houston, Texas this 11th day of December, 2009.

Kenneth M. Hoyt
United States District Judge

[4] In its motion for leave to supplement the record, Nalco "moves this Court for leave to supplement the preliminary injunction record to include evidence of an alternative, noninfringing, process Nalco seeks to practice at Sunoco . . . ." In response, Baker Hughes states that "Nalco admits that it is not practicing its alleged alternative method[, and therefore,] Nalco's Motion is premature and is an improper request for an advisory opinion, which [this Court is not] required to provide." The Court agrees with Baker Hughes. Accordingly, Nalco's motion for leave to supplement the record is denied.